10/705,693

LISTING OF THE CLAIMS

- 1. (currently amended) A polymer having an Frosion Rate in seawater that is suitable for use as a binder in a marine antifouling paint and having improved flexibility comprising a polymer of the formula –[A]-[B]- where A is present from above 9 to about 20 mole percent based on the total molar amount of monomers used to make the polymer(s) comprising the marine antifouling paint, and comprises one or more triarylsilyl(meth)acrylol groups (-XSiR₃) XSiR₃ wherein each R may be the same or different and is a substituted or unsubstituted aryl or heteroaryl group, X is the residue of an acryloxy or methacryloxy group; and B represents the residue of two or more different ethylenically unsaturated monomers copolymerizable with A.
- 2. (currently amended) The seawater erodible polymer of Claim 1 in which at least one R is an unsubstituted aryl, an aryl group substituted with one or more chlorine, fluorine, bromine, iodine, alkyl, perfluoroalkyl, napthyl, fluorenyl, anthracenyl, phenanthrenyl, pyronyl, alkylether, substituted alkylether, arylether, substituted arylether, amino substituted group, or inixtures thereof and the polymer is characterized by an Erosion Rate in seawater of from 2 to 15 microns per month.
- 3. (original) The seawater erodible polymer of Claim 1 wherein A is triphenylsily acrylate or triphenylsilylmethacrylate, and the polymer is characterized by an Erosion Rate in sea water of from 2 to 15 microns per month.
- 4. (original) The seawater crodible polymer of Claim 1 in which at least one R is a sulfur-, nitrogen-, or oxygen-containing heteroaryl group.
- 5. (original) The seawater erodible polymer of Claim 1 in which B is selected from the group consisting of unsaturated organic acids, esters of acrylic acid, esters of methacrylic acid, vinyl compounds, malcic esters, and fumaric esters.

10/705.693

- 6. (original) The seawater erodible polymer of Claim 5 in which B is selected from methyl acrylate, ethyl acrylate, propyl acrylate, n-butyl acrylate, t-butyl acrylate, sec-butyl acrylate, 2ethylhexyl acrylate, cyclohexyl acrylate, phenyl acrylate, n-octyl acrylate, 2-hydroxyethyl acrylate, hydroxy-n-propyl acrylate, hydroxy-i-propyl acrylate, glycidyl acrylate, methoxyethyl acrylate, 2-methoxypropyl acrylate, methoxytriethyleneglycol acrylate, 2ethoxyethyl acrylate, ethoxydiethylcneglycol acrylate, methyl methacrylate, ethyl methacrylate, propyl methacrylate, n-butyl methacrylate, t-butyl methacrylate, sec-butyl methacrylate, 2ethylhexyl methacrylate, cyclohexyl methacrylate, 2-hydroxycthyl methacrylate, glycidyl methacrylate, 2-methoxyethyl methacrylate, 2-methoxypropyl methacrylate. methoxytriethyleneglycol methacrylate. and 2-ethoxyethyl methacrylate, hydroxy-npropyl(meth)acrylate, hydroxy-i-propyl methacrylate, phenoxyethyl methacrylate, butoky ethyl methacrylate, isobornyl (meth)acrylate, neopentyl glycolmethylether propoxylate acrylate. poly(propylene glycol) methylether acrylate, ethoxydiethyleneglycol methacrylate, acrylic acid. methacrylic acid, 2-butoxyethyl acrylate, crotonic acid, di(ethylene glycol) 2-cthylhexyl ether acrylate, di(cthylene glycol) methyl ether methacrylate, 3,3-dimethyl acrylic acid, 2-(dimethylamino) ethyl acrylate, 2-(dimethylamino) ethyl methacrylate, cthylene glyco! phenyl ether acrylate, ethylene glycol phenyl ether methacrylate, 2(5H)-furanone, hydroxybutyl methacrylate, methyl-2(5II)-furanone, methyl trans-3-methoxyacrylate, 2-(t-butylamiho)ethyl methacrylate, tetrahydrofurfuryl acrylate, 3-tris-(trimethylsiloxy)silyl propyl methacrylate, tiglic acid, trans-2-hexenoic acid, vinyl acetate, vinyl propionate, vinyl butyrate, vinyl benzoate, dimethyl malcate, diethyl malcate, di-n-propyl malcate, diisopropyl malcate, di-2-methoxyethyl maleate, dimethyl fumarate, diethyl fumarate, di-n-propyl fumarate, diisopropyl fumarate, styrene, vinyltoluene, alpha-methylstyrene, N,N-dimethyl acrylamide, N-t-butyl acrylamide, Nvinyl pyrrolidone, and acrylonitrile.
- 7. (original) The seawater crodible polymer of Claim 1 wherein said polymer has a molecular weight in the range from 1,000 to 200,000 g/mol.
- 8. (original) The polymer of Claim 1 wherein monomer B comprises methyl methaciylate.

- 9. (currently amended) A polymer comprising the reaction product of monomer A as defined in Claim 1, where A comprises one or more triarylsilyl(meth)acrylates (XSiR₃) wherein each R may be the same or different and is a substituted or unsubstituted aryl or heteroaryl group. X is the residue of an acryloxy or methacryloxy group, with one or more ethy enically unsaturated monomers of group B as defined in Claim 1 wherein B represents one or more ethylenically unsaturated monomers copolymerizable with A, in the presence of a polymerization catalyst or initiator and characterized by residue of monomer A in said polymer of above 9 to about 20 mole percent of the copolymer.
- 10. (currently amended) The polymer of Claim 9 where at least one R is selected from unsubstituted aryl, phenyl, aryl substituted by one or more chlorine, fluorine, bromine, iodine, alkyl, perfluoroalkyl, napthyl, fluoronyl, anthracenyl, phenanthrenyl, pyrenyl, alkylether, substituted alkylether, arylether, substituted arylether; amino substituted group or mixtures thereof and the polymer is characterized by an Erosion Rate of from 2 to 15 microns per month.
- (original) The polymer of Claim 9 wherein monomer A is triphenylsilyl activate or triphenysilyl methacrylate.
- 12. (original) The polymer of Claim 9 wherein said polymer has a molecular weight in the range from 1,000 to 200,000 g/mol.
- 13. (original) A polymer composition comprising the polymer of Claim 1 and an organic solvent.
- 14. (original) The polymer composition of Claim 13 further comprising a stabilizing agent selected from a dehydrating agent, a zeolite, an acid neutralizer, an amino containing compound, an antioxidant, a chelator, and an alkoxy silane.
- 15. (original) A polymer composition comprising the polymer of Claim 9 and and organic solvent.

10/705,693

- 16. (original) The polymer composition of Claim 15 further comprising a stabilizing agent selected from a dehydrating agent, a zeolite, an acid neutralizer, an amino containing compound, an antioxidant, a chelator, and an alkoxy silane.
- 17. (original) A self-polishing marine antifouling coating composition comprising the polymer of Claim 1, a toxicant, and a stabilizing agent, and characterized by an Erosion Rate in seawater of about 2 to 15 microns per month.
- 18. (original) The self-polishing marine antifouling coating composition of Claim 17 wherein said stabilizing agent is present in said composition from 0.1 to 10 weight percent based upon the weight of said composition.
- 19. (original) The self-polishing antifouling coating composition of Claim 17, further comprising rosin and rosin derivatives.
- 20. (original) The self-polishing antifouling coating composition of Claim 19 in which the rosin and rosin derivatives are present in the range of 5 to 60 weight percent of the polymer.
- 21. (original) A self-polishing antifouling coating composition for fresh water or brackish water applications comprising the polymer of Claim 1, a toxicant, and a stabilizing agent, and characterized by an Erosion Rate of about 2 to 15 microns per month in the fresh water or brackish water of the application.